

$$x = \begin{pmatrix} x_1 \\ x_2 \\ x_3 \\ x_4 \\ x_5 \\ x_6 \\ x_7 \\ x_8 \\ x_9 \\ x_{10} \\ x_{11} \\ x_{12} \\ x_{13} \\ x_{14} \\ x_{15} \\ x_{16} \\ x_{17} \\ x_{18} \\ x_{19} \\ x_{20} \\ x_{21} \\ x_{22} \\ x_{23} \\ x_{24} \\ x_{25} \\ x_{26} \\ x_{27} \\ x_{28} \\ x_{29} \\ x_{30} \\ x_{31} \\ x_{32} \\ x_{33} \\ x_{34} \\ x_{35} \\ x_{36} \\ x_{37} \\ x_{38} \\ x_{39} \\ x_{40} \\ x_{41} \\ x_{42} \\ x_{43} \\ x_{44} \\ x_{45} \\ x_{46} \\ x_{47} \\ x_{48} \\ x_{49} \\ x_{50} \\ x_{51} \\ x_{52} \\ x_{53} \\ x_{54} \\ x_{55} \\ x_{56} \\ x_{57} \\ x_{58} \\ x_{59} \\ x_{60} \\ x_{61} \\ x_{62} \\ x_{63} \\ x_{64} \\ x_{65} \\ x_{66} \\ x_{67} \\ x_{68} \\ x_{69} \\ x_{70} \\ x_{71} \\ x_{72} \\ x_{73} \\ x_{74} \\ x_{75} \\ x_{76} \\ x_{77} \\ x_{78} \\ x_{79} \\ x_{80} \\ x_{81} \\ x_{82} \\ x_{83} \\ x_{84} \\ x_{85} \\ x_{86} \\ x_{87} \\ x_{88} \\ x_{89} \\ x_{90} \\ x_{91} \\ x_{92} \\ x_{93} \\ x_{94} \\ x_{95} \\ x_{96} \\ x_{97} \\ x_{98} \\ x_{99} \\ x_{100} \end{pmatrix}$$

Abstract of Disclosure

A method is directed to recovering a digital data content in a communication system, wherein the digital data content has been converted into an analog signal based on a primary clock, at a transmitter for transmitting to a receiver. The method comprises receiving the analog signal by the receiver. The analog signal is converted into a digital signal, based on a clock of the receiver. The digital signal is interpolated at the desired interpolation point, if digital signal in time has been shifted by an amount equal to or larger than a predetermined time length. The interpolated digital signal is recovered back to the digital data content, with the assist of an estimated channel impulse response. The channel impulse response is retrained every time when the interpolation point is significantly changed.

Figures